

REMARKS

Claims 1-29 are pending in this application. Claims 1 and 17 are amended and claims 24-29 are added. No new matter has been added. Reconsideration of the application in view of the above amendments and the following remarks is respectfully requested.

Claim 1 is amended to include a combination of the features present in original claims 3 and 4. Further, claims 1 and 17 have been amended to correct informalities objected to by the Office Action. Applicant respectfully requests the objection be withdrawn.

Applicant appreciates the courtesies shown to Applicant's representatives by Examiner Nguyen in the September 1 personal interview. Applicant's separate record of the substance of the interview is incorporated into the following remarks.

As a preliminary matter, in response to the Office Action's indication that "the phrase 'closely-contacted relation' is understood as 'almost contacted' but not 'directly contacted'", Applicant hereby clarifies that the claims are intended to cover both "direct contact" and "close-but-not-contacting" embodiments. In fact, embodiments of both types are disclosed in this application, and the claims should be construed to cover at least the disclosed embodiments. The Examiner is requested to use this interpretation upon further consideration of this application.

As a further preliminary matter, in response to the Office Action's objection to Fig. 7, the attached replacement drawing sheet makes changes to Fig. 7 and replaces the original sheet with Figs. 5A, 5B, 6 and 7.

I. §102(e) Rejection

Claims 1, 2, 9 and 10 stand rejected under 35 U.S.C. §102(e) over U.S. Patent 6,528,731 to Murakami et al. ("Murakami"). This rejection is respectfully traversed.

Independent claim 1 recites, *inter alia*, "wherein a substantive total cross-sectional area of the conductor of each of the signal wires is in range of from 0.03 mm² to 0.13 mm², respectively." Applicant respectfully submits that Murakami does not disclose, teach or suggest such a feature.

Accordingly, it is respectfully submitted that claim 1 is patentably distinguishable over Murakami. Claims 2, 9 and 10 depend from independent claim 1 and are likewise patentably distinguishable over Murakami for at least their dependence on an allowable base claim, as well as for additional features they recite. Accordingly, withdrawal of this rejection is respectfully requested.

II. §103 Rejection of claims 1, 2, 5, 6, 9 and 10

The Office Action rejects claims 1, 2, 5, 6, 9 and 10 under 35 U.S.C. §103(a) as unpatentable over U.S. Patent 5,008,489 to Weeks, Jr. et al. (Weeks) in view of U.S. Patent 6,417,445 to Sato et al. (Sato). This rejection is moot, because claim 1 now includes a combination of the features of original claims 3 and 4, which were not rejected over the combination of Weeks and Sato. However, the following is a traversal of the combination of Weeks and Sato, because Applicants do not believe that Weeks and Sato would have rendered obvious any of claims 1, 2, 5, 6, 9 and 10, even before features of claims 3 and 4 were added. (The claims 3 and 4 features were added to address the §102 rejection.) Thus, the following, while demonstrating the impropriety of the Weeks/Sato combination, also demonstrates the impropriety of the Weeks/Sato/Olyphant combination with respect to claims 3 and 4.

The Office Action states that it would have been obvious to one skilled in the art to use the alloy taught by Sato for the wires in Weeks, "since the alloy taught by Sato et al. provides both tensile strength and electrical conductivity."

However, Applicant respectfully submits that it would not have been obvious to combine alloy taught by Sato for the wires in shielded flat cable type described by Weeks. As stated in Weeks at col. 4, line 66 through column 5, line 2, and as depicted in Fig. 6, "[t]he group of insulated conductors is surrounded by a non-conducting structurally reinforcing fiber bundle 117 and the entire assembly is wrapped with the serpentine pattern shielding tape 116, as shown" (emphasis added). Applicant respectfully asserts that additional strength would not have been needed or desired in the flat cable type described by Weeks because the conductors are "surrounded by a non-conducting structurally reinforcing fiber bundle." Further, Applicant respectfully asserts that, given that the additional strength is not needed in Weeks, it would not have been obvious to use an alloy conductor, which has a conductivity that is less than that of copper. For example, as stated in Sato at col. 2, lines 2-7, "[t]he elementary coaxial cable wire is characterized in that the core conductor is made of a metallic material including copper and silver so as to have a tensile strength of 120 kgf/mm² (kg/mm²) or more and an electrical conductivity of 60 to 90% by IACS (International Annealed Copper Standard)" in which annealed copper is taken as 100%. Applicant respectfully submits that such a significant drop in conductance would make the cable in Weeks unsatisfactory for its intended purpose. As stated in the MPEP at 2143.01, "[I]f [the] proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." Thus, there would have been no motivation to incur such a decrease in electrical performance, in order to achieve greater strength, when no such additional strength was needed.

Further, Applicant respectfully asserts that not including the "structurally reinforcing fiber bundle" in Weeks (and instead trying to use an alloy to provide strength) would affect the ability of the shielded flat cable type described by Weeks to maintain a flat configuration, and thus would be contrary to Weeks' principles of operation. As stated in the MPEP at

2143.02, "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious." For example, please note that the cable described in Weeks with a round cross-section (i.e., as shown in Figs. 3 and 3A) does not employ a "structurally reinforcing fiber bundle."

For at least these reasons, it is respectfully submitted that the alleged motivation to combine Weeks and Sato would not have existed, and that therefore the combination is improper. Therefore, withdrawal of the rejection is respectfully requested.

III. §103 Rejection of claims 3 and 4

The Office Action rejects claims 3 and 4 under 35 U.S.C. §103(a) as unpatentable over Weeks in view of Sato, as applied to claim 1, and further in view of U.S. Patent 4,475,006 to Olyphant, Jr. (Olyphant). This rejection is respectfully traversed.

Applicant respectfully submits, for reasons stated above, that the Weeks/Sato combination is improper. Therefore, Applicant respectfully submits that the Weeks/Sato/Olyphant combination is also improper for at least the same reasons. Therefore, withdrawal of the rejection is respectfully requested.

IV. §103 Rejection of claims 7, 8, 11 and 12

The Office Action rejects claims 7, 8, 11 and 12 under 35 U.S.C. §103(a) as unpatentable over Weeks in view of Sato, as applied to claim 1, and further in view of JP411111070 (JP'070). This rejection is respectfully traversed.

Applicant respectfully submits, for reasons stated above, that the Weeks/Sato combination is improper. Therefore, Applicant respectfully submits that the

Weeks/Sato/JP'070 combination is also improper for at least the same reasons. Therefore, withdrawal of the rejection is respectfully requested.

V. §103 Rejection of claims 13, 14 and 17

The Office Action rejects claims 13, 14 and 17 under 35 U.S.C. §103(a) as unpatentable over Weeks in view of U.S. Patent 6,303,868 to Kawai. This rejection is respectfully traversed.

The Office Action states that it would have been obvious to one skilled in the art to use the twisted strand conductor taught by Kawai for the wires in Weeks, since the twisted strand conductor taught by Kawai provides both sufficient conductivity and strength.

However, Applicant respectfully submits that it would not have been obvious to combine the twisted strand conductor taught by Kawai for the conductors in the shielded flat cable type described by Weeks. As discussed above in connection with the Weeks/Sato rejection, as stated in Weeks at col. 4, line 66 through column 5, line 2, and as depicted in Fig. 6, "[t]he group of insulated conductors is surrounded by a non-conducting structurally reinforcing fiber bundle 117 and the entire assembly is wrapped with the serpentine pattern shielding tape 116, as shown" (emphasis added). Applicant respectfully asserts that no additional strength would have been needed or desired in the flat cable type described by Weeks because the conductors are "surrounded by a non-conducting structurally reinforcing fiber bundle."

Additionally, Kawai addresses problems in single conductor cables, and one of ordinary skill in the art would not have been motivated to apply those teachings in the plural conductor structure of Weeks, because the plural conductor structure of Weeks does not have the problems addressed by Kawai (e.g., insufficient strength).

Further, Applicant respectfully asserts that, given that the additional strength is not needed in Weeks, it would not have been obvious to use an alloy conductor, which has a conductivity that is less than that of copper (i.e., 90% that of annealed copper, as stated in Kawai at col. 3, lines 34-39) and thus would have had worse electrical performance, in order to achieve greater strength, when no such additional strength was needed. Further, Applicant respectfully asserts that not including the "structurally reinforcing fiber bundle" in Weeks would affect the ability of the shielded flat cable type described by Weeks to maintain a flat configuration, and thus would be contrary to Week's principles of operation. For example, please note that the cable described in Weeks with a round cross-section (i.e., as shown in Figs. 3 and 3A) does not employ a "structurally reinforcing fiber bundle."

For at least these reasons, it is respectfully submitted that the Weeks/Kawai combination is improper. Therefore, withdrawal of the rejection is respectfully requested.

VI. §103 Rejection of claims 15 and 16

The Office Action rejects claims 15 and 16 under 35 U.S.C. §103(a) as unpatentable over Weeks in view of Kawai, as applied to claim 1, and further in view of U.S. Patent 4,475,006 to Olyphant, Jr. (Olyphant). This rejection is respectfully traversed.

Applicant respectfully submits, for reasons stated above, that the Weeks/Kawai combination is improper. Therefore, Applicant respectfully submits that the Weeks/Kawai/Olyphant combination is also improper for at least the same reasons. Therefore, withdrawal of the rejection is respectfully requested.

VII. §103 Rejection of claims 18 and 19

The Office Action rejects claims 18 and 19 under 35 U.S.C. §103(a) as unpatentable over Weeks in view of Kawai, as applied to claim 1, and further in view of Sato. This

rejection is respectfully traversed.

Applicant respectfully submits, for reasons stated above, that the Weeks/Sato combination and the Weeks/Kawai combination are improper. Therefore, Applicant respectfully submits that for at least the same reasons stated above, the Weeks/Sato/Kawai combination is also improper. Therefore, withdrawal of the rejection is respectfully requested.

VIII. §103 Rejection of claims 20 - 23

The Office Action rejects claims 20 - 23 under 35 U.S.C. §103(a) as unpatentable over Weeks in view of Kawai, as applied to claim 1, and further in view of JP'070. This rejection is respectfully traversed.

Applicant respectfully submits, for reasons stated above, that the Weeks/Kawai combination is improper. Therefore, Applicant respectfully submits that the Weeks/Kawai/JP'070 combination is also improper for at least the same reasons. Therefore, withdrawal of the rejection is respectfully requested.

IX. New Claims

Independent claim 24 has been added based upon original claim 1, with the exception that claim 24 recites, "an insulating sheath entirely covering an outer periphery of the shielding layer."

Applicant respectfully submits that claim 24 is patentably distinguishable over Murakami because the insulating sheath in Murakami does not entirely cover the shielding layer. As described at col. 8, lines 56-60, col. 10, lines 42-47, and col. 12, line 23-28, the insulating sheath is melted away from the shielding layer at discrete locations at which

welding is performed. Therefore, Applicant respectfully submits that claim 24 is patentably distinguishable over Murakami.

Claims 25, 26 and 27 depend from independent claims 24, 13 and 1, respectively, and each, therefore, is patentably distinguishable for at least its dependence on an allowable base claim, as well as for additional features each recites.

Independent claims 28 and 29 have been added based upon claims 1 and 13, respectively. Claim 28 recites, *inter alia*, "wherein the plurality of signal wires are juxtaposed in closely-contacted relation to one another to form a group of juxtaposed signal wires with a first juxtaposed signal wire and a last juxtaposed signal wire; wherein the drain wire is juxtaposed in closely-contacted relation to the last juxtaposed signal wire; and wherein at least the first juxtaposed signal wire in the group is made of copper alloy." Claim 29 recites, *inter alia*, "wherein the plurality of signal wires are juxtaposed in closely-contacted relation to one another to form a group of juxtaposed signal wires with a first juxtaposed signal wire and a last juxtaposed signal wire; wherein the drain wire is juxtaposed in closely-contacted relation to the last juxtaposed signal wire; wherein at least the first juxtaposed signal wire in the group includes a linear central wire element disposed at a longitudinal axis of the conductor and a peripheral wire element stranded around the central wire element therealong, wherein the central wire element is made of copper, and wherein the peripheral wire element is made of copper alloy."

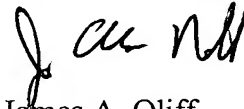
Applicant respectfully submits that claims 28 and 29 are patentably distinguishable over the cited references at least for the reasons presented above for claims 1 and 13.

X. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-29 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Amendments to the Drawings:

The attached replacement drawing sheet makes changes to Fig. 7 and replaces the original sheet with Figs. 5A, 5B, 6 and 7.

Attachment: Replacement Sheet